

**Moore, Nadia (Hope) A**

**From:** Collins, Michael S  
**Sent:** Wednesday, June 11, 2003 1:44 PM  
**To:** Rhoads, Kathleen; Johnson, Wayne L; Moore, Nadia (Hope) A; Jaksch, John A; Miller, Peter L  
**Cc:** Schmidt, Shanna D; Collins, Michael S  
**Subject:** FW: public comment to the HSW EIS



Cover letter to  
Michael Collin...



Case Study for  
AMWTP.doc



M Collins CTI  
capabilities sta...

These are public comments. I'm not sure how to address these "we have some technology we would like to sell that may help you" comments. Maybe just say that we passed this information along to those who could use it? I'm open to suggestions.

-----Original Message-----

**From:** Barry Moore [<mailto:barry.moore@contemptech.com>]  
**Sent:** Wednesday, June 11, 2003 12:53 PM  
**To:** Michael Collins (E-mail)  
**Subject:** public comment to the HSW EIS

Michael,  
Enclosed is our public comment to the "Revised draft Hanford Site Solid (Radioactive and Hazardous) Waste Program Environmental Impact Statement

Richland Washington". The letter below is also enclosed as a document

titled "Cover letter to Michael Collins". In addition there are two other documents; the CTI capabilities statement for HSW EIS will discuss in some detail our ability to address your needs as stated in the revised draft, and the Case Study for the AMWTP which describes the work we performed for the DOE Idaho Falls complex recently. Should you have any questions please contact me with the information shown below. Sincerely Barry S Moore

---

Mr. Michael S. Collins  
HSW EIS Document Manager  
Richland Operations Office  
U.S. Department of Energy, A6-38  
PO Box 550  
Richland, WA 99352-0550

Dear Mr. Collins:

1

Enclosed please find some detailed information about Contemporary Technologies, inc. We are experts in the design and development of software solutions that help manage and streamline the process of treating, storing, disposing and shipping of critical materials such as hazardous and nuclear waste. The following provides detailed information about Contemporary Technologies,

## E-0046 (contd)

1

inc. We are experts in the design and development of software solutions that help manage and streamline the process of treating, storing, disposing and shipping of critical materials such as hazardous and nuclear waste.

For nine years, CTi has developed an area of excellence that has allowed us to help our clients better support the specialized information that supports nuclear waste handling. Our customized and off-the-shelf software is in use at some of the largest commercial and government-sponsored waste cleanup

efforts in the United States. With CTi software, our clients can process

waste more quickly, with less mistakes, and ultimately save thousand or even of millions of dollars through improved efficiency.

By centralizing access to waste profiles, the Richland Operations Office and potentially the entire Hanford facility, could benefit. CTi software helps gather and store information related to waste characterization, repackaging, and certification. Our software helps companies gather and store electronic approvals, and exerts process controls that are based on waste acceptance criteria.

CTi solutions can address your repackaging, characterization, and certification requirements so your information meets the needs of locations like the Waste Isolation Pilot Plant for both contact and remotely handled TRU waste.

Our understanding of how to integrate systems will allow us to integrate with existing facilities like the Waste Receiving and Processing Facility.

CTi can provide data management systems able to support many types of waste such as low-level waste (LLW); Mixed low-level waste (MLLW); Immobilized low-activity waste (ILAW) or Transuranic Waste (TRU).

CTi seeks to team with the Prime Contractors selected to manage the Richland Operation's cleanup project. Some of the things that make us a valuable teaming partner are:

- Our previous knowledge of similar nuclear waste projects, including our involvement in creating a TRU waste characterization software for the DOE's AMWTP facility in Idaho Falls, ID.
- Our quality assurance program utilizes ASME NQA-1- Quality Assurance Requirements of Computer Software for Nuclear Facility Applications.
- CTi is also currently supporting the Software Engineering Institute's Capability Maturity Model (CMMI Level 2), and 85% complete with CMMI Level 3 certification.
- CTi recently developed a partnership with BNFL Instruments, a provider of hazardous and nuclear waste characterization instruments, to provide an Instrument Information Platform linking BNFL Instruments devices together into a unified information base.
- CTi is a small, woman-owned company.

Combined, these assets can make us a valuable asset to the Richland Operations Office and its prime contractors. The following information will provide more details regarding our capabilities. Please feel free to pass this information on to any appropriate parties that may have need for CTi's unique skills.

Thank you in advance for your assistance in this matter.

Sincerely,

Barry S. Moore  
Director of Business Development  
Contemporary Technologies Inc.  
444 Liberty Ave.

Pittsburgh PA 15222  
(888) 642 2100, x304  
[barry.moore@contemptechnology.com](mailto:barry.moore@contemptechnology.com)

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Director of Business Development  
Contemporary Technologies Inc.  
444 Liberty Ave.  
Pittsburgh PA 15222  
(412) 642-2222, x304  
barry.moore@contemptechnology.com



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# **Real-Time Data Management For The Advanced Mixed Waste Treatment Project**

## **Better Processes for the Management of Nuclear and Hazardous Waste Materials**

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**A Case Study  
Stephen W. Paff  
August 13, 2002**

Contemporary Technologies, Inc.  
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Pittsburgh, PA 15222  
Phone: 412-642-2222  
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## Introduction

The treatment and management of hazardous waste, especially nuclear materials handling, is an expensive and demanding process. Government regulations have helped to ensure safe processing, but these strict rules have caused the cost of handling to skyrocket. These regulations demand an enormous amount of information about the current location, history, and characterization of many types of hazardous materials. For companies involved in this process to remain profitable, they must operate as efficiently as possible by relying on plant automation and exploiting technology.

Most waste systems utilize a number of discrete components gathered together into a process. At issue with this approach is a lack of unified data. Without this centralized management, most companies and organizations are unable to quickly provide the type of real-time answers that are required.

This Case Study describes a working solution for nuclear or hazardous waste data management in real-time. Contemporary Technologies, Inc., as a subcontractor to British Nuclear Fuel Limited (BNFL), has created a real-time system for the Advanced Mixed Waste Treatment Project (AMWTP) in Idaho Falls, Idaho. This system, Waste Tracking System (WTS), utilizes Oracle technologies to create real-time access to information about the location, characterization and shipment of containers of hazardous waste. The WTS interfaces with many concurrent technologies, such as barcode readers, radiography recorders, assay equipment, and plant automation software and provides a centralized data management system for the entire waste management process.

This system provides process optimization for the shipment of materials that best meet government shipping regulations. It provides a unified and searchable database of container history, including characterization information, movement history, and current location. It provides a single, auditable location for operator and management approvals. And finally, it helps BNFL adhere to the Department of Energy's NQA-1 guidelines for handling nuclear materials, thereby, helping to avoid government penalties, and reducing costs.

### **About AMWTP**

During the 1970s and 1980s, Transuranic (TRU) waste, generated in national defense and research programs, was delivered for storage to the Idaho National Environmental and Engineering Laboratory (INEEL) site in Idaho Falls, Idaho. Recent agreements between the State of Idaho and the DOE have compelled the construction of the Advanced Mixed Waste Treatment Project (AMWTP) to treat and ship this waste from INEEL to its final disposal site at the Waste Isolation Pilot Plant (WIPP) in New Mexico. The DOE subcontracted the creation and staffing of the AMWTP to British Nuclear Fuels Limited, Inc. (BNFL). BNFL will retrieve approximately 65,000 cubic meters of mixed transuranic waste in temporary storage at the Transuranic Storage Area, treat the waste to meet environmental laws and disposal criteria, and package the waste for shipment to WIPP.

### **WTS Project Origins**

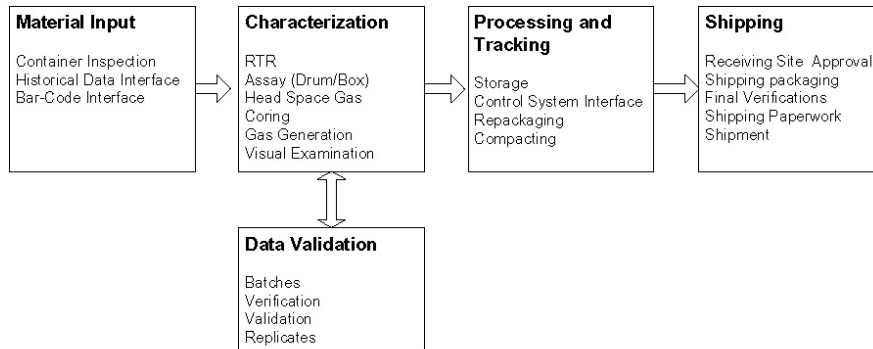
Upon winning the contract for the creation of the AMWTP, BNFL immediately set out to build a software system with which to manage the vast quantities of data that would be created during the lifespan of the project. Contemporary Technologies, Inc. (CTi) was approached as a possible subcontractor because of its long-time expertise with waste management systems, including a turn-key application for Treatment, Storage, Disposal Facilities called EnviroWare. CTi's combination of waste management experience, coupled with its expertise in database management made it the obvious choice for the project. CTi began the Waste Tracking System development project in early-2001.

### WTS Functionality

The WTS was defined to manage the information in five steps:

- Acceptance and inspection of the containers.
- Characterization of the waste material inside the containers.
- Processing/treatment of the waste material to meet shipping requirements.
- Payload assembly, storage, and preparation for shipment to the storage facility.
- Shipment of the containers to their final destination.

An overview of the process with supporting software controls provided by the AMWTP is shown in Figure 1.



**Figure 1: Overview of Process and Information Flow**

The sections that follow briefly highlight some of the WTS functions and describe how the system is used during each step in the waste management process.

#### Material Input

The first step in the process is to identify the containers coming into the system. The Inspection Station function within the Retrieval component is the means by which pertinent information about drums or boxes of waste are initially entered into the WTS. In a situation where containers have been previously stored and are then extracted for relocation, a barcode scanner reads the identification labels affixed to the excavated drums or boxes. The scanner eliminates the chance of human errors, and ensures accuracy as drum or boxed information is automatically entered into the WTS. If a prior database system was utilized to store information about the waste, the database can be



interfaced to the WTS. Data can be retrieved as historical information, thereby extending the knowledge trail of the waste in question.

In a situation where drums or boxes have not been previously stored and are being received for initial processing without historical information, (such as in the case of newly generated waste), scannable identification labels are generated by the WTS for attachment to the drums or boxes. From this point on, the WTS tracks all physical characteristics and analyses performed on the drum or box as they move through the process.

### **Characterization**

The Characterization component consists of a battery of tests and examinations meant to identify the type(s) of waste within a drum or box. Each process is conducted according to a modifiable examination plan that is automatically associated with each drum or box. The exam plan tasks are assigned during inspection according to established business rules and limitations created to ensure compliance with the regulatory and legal requirements.

Several characterization workstations may be used in the characterization process:

- Real-Time Radiography (RTR) — an X-ray of a drum or box for the purposes of identifying its contents determines the existence of prohibited items and provides a means of categorizing the contents into waste streams.
- Assay — provides general information about a container including weights and radioactivity levels.
- Venting — releasing trapped gas from a sealed drum.
- Head Space Gas Sampling (HSGS) — refers to taking a sample of the gas trapped in the top of a sealed drum so it can be analyzed.
- Core Sampling — a (vertical) sampling of a container contents to be laboratory tested.
- Gas Generation Test — determines the rate of hydrogen generation for a drum or box of organic materials over a specific period of time.

The work performed at each workstation generates results that are stored in the WTS and become a part of a drum or boxes permanent record. The WTS continually monitors these results to determine the subsequent treatment route for the waste and to ensure the results are within established parameters to prevent further processing of waste that is in violation of the limitations established in the business rules. For example, some containers may contain waste that is too "hot" for the intended destination. In other cases, drums or boxes found to contain explosives or liquids may violate processing rules. When such containers are identified, the WTS generates non-conformance reports (NCRs) against those drums or boxes and flags them for special handling.

### **Processing and Storage**

Following characterization, the containers may be stored, shipped or have additional processing. One such process is compaction where multiple drums or boxes are compressed and placed into a single oversize container. The WTS also supports drum or box repacking. Once processing is completed these containers may be shipped or stored. Containers are stored so that WIPP shipping payloads may be optimized, (see "Shipment" below for optimization details).

### **Facility**

Containers intended for shipment are stored using a system that tracks the placement of every drum or box. Material can be segregated by drum or box type, waste matrix code groups, or other customizable designations. The WTS can be interfaced with the plant control system. With Programmable Logic Control (PLC) equipment "feeding" inputs to the factory automation software, the WTS can store every event and alarm triggered anywhere within the facility. This information can be a valuable aid when evaluating equipment reliability and planning maintenance shutdowns.

Manual moves are also permitted through the WTS should a conveyor or other equipment require maintenance. Manual movement allows total control over a drum or box as it travels through the facility. Both methods of movement permit you to view the location of any drums or boxes within the facility, and view the characteristics of that drum or box at any time.

### **Shipment**

Plant automation software, interfaced to the WTS, is employed to select drum or box from storage and group them according to preset parameters established by the business rules. For example, direct ship drums are assembled into groups of 10 for shipment in a ten-drum overpack. Puck drums are assembled for loading into a single vessel for shipment. Shipping data pertaining to a payload of certified containers can be made available for approval by the appropriate governing body prior to shipping.

### **Alerts**

The WTS uses a messaging system to automatically alert individuals or groups of users (based on customizable configurations) when instrument results are ready for review. Users can also manually view and create inbox messages as needed.

### **Exam Plans**

The WTS uses an exam plan to indicate the tasks that must be performed on a drum or box. The exam plan allows users to assign a task list to a specific drum or box and track whether a task is required and when the task is completed. The exam plan is generated automatically based on the container type and contents. It may be updated at any time to add or remove required tasks based on new information about a drum or box.

**Batches**

The WTS can be configured to process several drums or boxes in a single "batch" of analyses. A batch is defined as a suite of analyses and samples collected consecutively using the same equipment within a specific time period. In addition, the WTS provides for quality control data validation completed on a batch basis.

**Security**

A Security/Logon component is utilized to allow authorized users entry into the WTS. Access security is enforced via the user name and password. User accounts and the appropriate security/approval levels are based on a user's role within the WTS and are maintained by the WTS system administrator. Users are restricted to specific areas within the WTS.

**E-Signature**

An Electronic Signature component is used by qualified supervisors to certify final results of analyses performed by operators throughout the system.

**Validation**

The WTS allows for multiple levels of data validation with checklists at each level of processing. Authorization using Electronic Signature is required at each level, thereby assuring result verification occurs throughout processing.

**Time Monitoring**

The system included an Alarm component that monitors time-sensitive processes within a facility. Electronic alarms can be created to send messages to specific users or to a specific role to remind operators of time-based events.

**Non-Conformance Reports**

Non-conformance Reports may be generated against a batch, a drum or box, or a piece of equipment. NCRs typically indicate a problem, concern, or simply some anomaly that has occurred during processing. All NCRs must be closed prior to storage or shipment of a drum or box. NCRs may be created by either an operator or a process. For example, an NCR is automatically created when there is a change to a containers Item Description Code (IDC).

### Summary

Strict government standards and increasing costs of handling nuclear waste require companies to work smarter and more efficiently in order to be profitable. Advances in technology have made it possible to automate plant operations and to capture analytic data that can be used in a myriad of ways. These advancements, coupled with Oracle, the industry's leading database product, make it possible to handle waste products in a way that is efficient and cost-effective while satisfying strict government regulations. Contemporary Technologies' WTS is the nerve center to which all waste data is collected, analyzed, organized, and stored. The WTS provides a tightly integrated, well-organized method for maintaining electronic, paperless audit trails available for instant recall.

For additional information on Contemporary Technologies, Inc. and the other products or services we offer, please visit our website at [www.contemptech.com](http://www.contemptech.com) or contact Barry S. Moore at (412) 642-2222, ext. 304 (you may also email Barry at [barry.moore@contemptech.com](mailto:barry.moore@contemptech.com)). Should you wish to contact the author, Stephen W. Paff, his email address is [stevep@contemptech.com](mailto:stevep@contemptech.com)



## **Contemporary Technologies Corporate Capabilities Overview For Richland Operations Office**

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G-20030610-1

### **Stephen Doody**

General Manager, Government Services

### **Barry Moore**

Director of Business Development  
Contemporary Technologies, Inc.

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444 Liberty Ave.

Pittsburgh, PA 15222

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[barry.moore@contemptech.com](mailto:barry.moore@contemptech.com)

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## Executive Overview

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The following provides detailed information about Contemporary Technologies, Inc. We are experts in the design and development of software solutions that help manage and streamline the process of treating, storing, disposing and shipping of critical materials such as hazardous and nuclear waste.

For nine years, CTi has developed an area of excellence that has allowed us to help our client's better support the specialized information that supports nuclear waste handling. Our customized and off-the-shelf software is in use at some of the largest commercial and government-sponsored waste cleanup efforts in the United States. With CTi software, our clients can process waste more quickly, with fewer mistakes, and ultimately save thousand or even of millions of dollars through improved efficiency.

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## E-0046 (contd)

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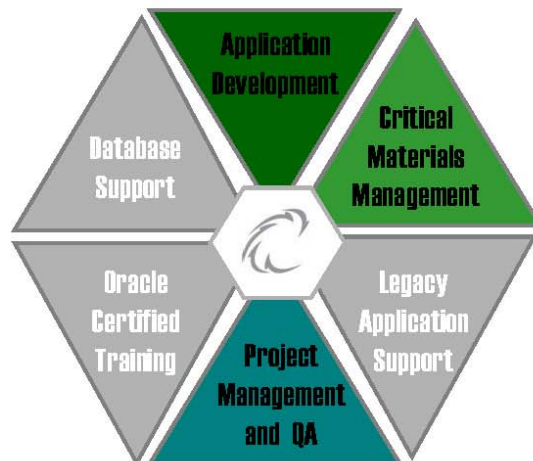
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## **Introduction to Contemporary Technologies**

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CTi provides a unique combination of service solutions and expertise in the areas of database management services, software application development, critical materials management solutions, Oracle certified training and on-going legacy application support services. Tying these divergent offerings together is a fundamental expertise of operational excellence that is delivered through all of our software and services in the form of a robust quality assurance and project management program.

In response to your request for public comment, CTi believes that our knowledge of application development, our understanding of the requirements for handling critical materials, along with our strong base in project management and quality assurance would be applicable for HSW EIS.





## **Customized Critical Materials Management Solutions**

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For clients with specific processes and quality assurance practices, CTi develops custom fit knowledge and process management tools that directly match the operational requirements of large materials and waste management projects. These customized solutions help companies streamline operations and reduce the costs of management. CTi combines a group of analysts with expertise in critical materials, strong project management experience, top development skills and a fully developed nuclear-level quality assurance program (utilizing ASME NQA-1 and 10CFR830 regulations). CTi recently completed a multi-year development project for the United States Department of Energy and BNFL, Inc. for the creation of a waste retrieval and characterization system utilized to centralize operational knowledge at the Advanced Mixed Waste Treatment Project in Idaho Falls, ID. (See attached white paper "Real Time Data Management for the Advanced Mixed Waste Treatment Project" for details of the CTi solution.)



## **Critical Materials Management Solutions**

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Managing information related to hazardous, chemical, biological and nuclear materials and waste has become increasingly important in light of recent events around the world. CTi maintains a center of excellence dedicated to creating software systems for the management of these critical materials. CTi delivers an off-the-shelf waste tracking application called EnviroWare and has also created customized knowledge and process management tools for tracking, characterizing and shipping critical materials.

### **EnviroWare**

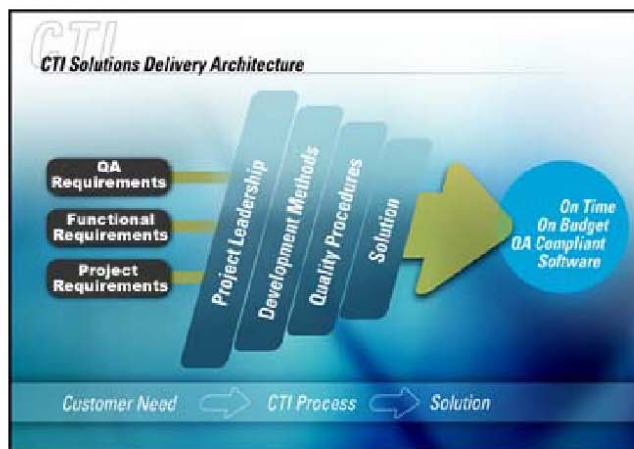
EnviroWare provides an enterprise-wide management solution designed specifically for companies treating, storing and disposing of critical materials, such as hazardous waste. EnviroWare helps these companies streamline their operations, provide better customer support while maximizing revenue potential throughout the entire process of critical materials disposal.



By centralizing the data from the waste management process, EnviroWare helps single and multi-site facilities become more efficient with their waste management. This increases their work capacity and the capture of additional revenue opportunities. With EnviroWare, all of the data related to the waste, from its characterization and analysis, to handling fees, shipping and ultimate disposal are centrally recorded. This reduces errors and allows personnel to provide better customer service through fast access to all the pertinent information that their clients need.

## Project Management & Quality Assurance

Providing support for all of our projects and services are a group of talented and knowledgeable project managers and quality assurance professionals. This group helps guide all of our projects with toward success. Utilizing the CTi Solutions Delivery Architecture, CTi is able to help companies manage projects, both large and small, effectively, ensuring that deliverables are met on-time and on-budget.



### Project Management

CTi delivers a wealth of knowledge regarding the development and management of large, complex software systems. CTi has carefully cultivated employees with a range of experience in project management who have worked on large-scale projects for the government, government subcontractors and Fortune 100 commercial clients. This fundamental knowledge is core to all of our service and software offerings. By managing the specific requirements of the project, from a functional and organizational perspective and combining it with a quality assurance programs, we are able to successfully complete software development projects within given timeframes and budgets.

## E-0046 (contd)

### **Quality Assurance Program**

Consistent with many good software engineering programs, the CTI software development process derives its practices and methods from previously proven and industry-endorsed quality standards:

- ASME NQA-1 subpart 2.7 "QA Requirements of Computer Software for Nuclear Facility Applications"
- 10CFR830 subpart A "QA Requirements, DOE Nuclear Safety Management"

Embodied in these standards are the disciplined processes necessary to deliver fully verified and validated software documents and computer code. This program focused on the key deliverables of the software life cycle process, including:

- The definition of software requirements (i.e. the functions the software was to perform)
- The development of a system design (i.e. the blueprint of software development and component integration), and
- The subsequent testing of the software (i.e. validation of intended results)

Along the journey, these deliverables are rigorously verified and validated by CTI and our customers, assuring the delivered software aligns with the established design and software requirements. Independent document reviews, and computer code inspections and tests embody the backbone of the CTI process. An effective configuration management system and document control method, including a QA Records Library is established for the purpose of maintaining project code, documents and customer deliverables. Additionally, quality assurance audits are completed by qualified lead auditors to assess compliance of the organization to defined processes and procedures. Finally, in order to control and manage nonconformances, a corrective action and management review process, and software error-reporting system have been established.

CTI benchmarked and implemented the rigors of a set of established nuclear industry quality standards to successfully deliver compliant and effective software. CTI is currently evaluating several other quality standards (including SEI's CMMI and ISO 9000) and beginning the process of benchmarking for compliance.

## Recent News

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BNFL Instruments and Contemporary Technologies, inc. Partner to Provide An Instrument Information Platform

May 23, 2003

Santa Fe, NM & Pittsburgh, PA

BNFL Instruments, Inc. (BII), the leader in instrumentation and services for the measurement and characterization of radioactive materials, and Contemporary Technologies, inc. (CTi), a technology solutions company with expertise in designing and developing systems to manage critical materials, announced a partnership today. The partnership will center on the creation of an Instrument Information Platform (IIP) to support BII's full line of products.

"This partnership allows us to centralize instrument data and provide a more integrated solution for our clients," said Tony Marlow, Executive Vice President and General Manager for BII. "CTi's extensive knowledge in technology solutions for hazardous materials management made them the obvious partner for BII. With this framework in place, BII will be well positioned to further its leadership role in the area of radioactive measurement and characterization instrumentation."

The IIP provides a repository for all data from the characterization instruments and allows clients to centrally access and view this information. This framework makes it much simpler to ensure that validation and verification quality processes are met. In addition, the IIP allows clients to more rapidly deploy BII technology and facilitate the creation of standardized and customized reports.

"BII has a terrific vision for the future," states Janet Gualtieri, president and CEO for CTi. "CTi is happy to be involved in what will be a industry changing initiative. This represents the partnership of two best-of-breed companies with extremely complimentary offerings."

### About CTi

Contemporary Technologies, inc. provides a range of technology solutions that allow companies to maximize their IT investments. CTi provides critical materials solutions to government and commercial ventures through customized software applications and its EnviroWare product. CTi's database consulting and management practice offers database design and support services for a host of national clients. CTi is one of only eleven Oracle Authorized Education Centers in the U.S. Founded in 1994, the company is headquartered in Pittsburgh, PA with offices throughout the northeast. For more information on CTi, please visit [www.contemptechnology.com](http://www.contemptechnology.com).

### About BII

BNFL Instruments Inc. is a major U.S. supplier of instrumentation and services for the measurement and characterization of radioactive materials with headquarters in Santa Fe, New Mexico. With over 25 years experience, BII's comprehensive range of standard and customized instruments, plant integrated systems, and contract management services target the areas of decommissioning, waste management, fuel monitoring, safeguards, and plant operation and safety. For more information on BII, please visit [www.bnfinstruments.com](http://www.bnfinstruments.com).

## E-0046 (contd)

### **Contemporary Technologies, Inc. Completes Development Effort for BNFL AMWTP Facility in Idaho Falls, ID.**

April 7, 2003

Pittsburgh, PA

Contemporary Technologies, Inc., a leading provider of critical materials management solutions, announced today the successful completion of a two-year development project for BNFL, Inc.'s AMWTP facility in Idaho Falls, Idaho. The project, which consisted of the creation of a data management system, will allow BNFL employees to track, view and centrally manage the retrieval and characterization information from 60,000 cubic meters of transuranic (TRU) nuclear waste. The software is the realization of over 1,500 specific requirements and the work of a team of developers, analysts, testers, quality assurance, and documentation personnel in Pittsburgh and at BNFL's facilities in Idaho Falls, ID.

The CTi software is currently in operation at the facility and will be utilized throughout the plant to provide better sharing of data among plant personnel. The software enables BNFL to streamline its processes and helps to decrease the time necessary to manage the waste while increasing the efficiency of waste shipments from the AMWTP to the Waste Isolation Pilot Plant (WIPP) in Carlsbad, NM. "CTi's software gives us an invaluable management tool with which to characterize, track, sort and prepare for shipment a large amount of waste material" says Grenville Harrop, Project Manager for BNFL.

CTi now moves into an on-going support role to BNFL, providing training, support, updates to the system, and future interfaces to other portions of the DMS that are currently in development by other software providers and by BNFL.

Throughout the two years of development, CTi's team worked closely with the BNFL team to help define the waste retrieval system requirements. To meet dates selected by BNFL to correspond with its commissioning schedule, CTi delivered the software in several phases, and last week completed and delivered the final phase of the DMS waste retrieval module. CTi's work on the waste retrieval module of the AMWTP Data Management System was completed utilizing the quality assurance ASME NQA-1 rules, which provided a framework for all development processes, including design, requirements traceability, development, documentation and change management.

Janet Gualtieri, President and founder of Contemporary Technologies states, "Our unique blend of knowledge in the areas of critical materials management, quality assurance and technology position us well for similar future projects." Mr. Harrop concluded, "Tracking nuclear waste is extremely important in today's political environment. CTi's knowledge will continue to be felt on other similar projects."

## Conclusion

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As a small, woman-owned company, CTi is well positioned to provide a range of services and solutions to government agencies and sub-contractors. We combine the flexibility of a small company environment with the processes, quality assurance and development procedures that are needed for complex projects. Our flexibility allows us to rapidly focus a team of experts on the variety of requirements necessary for project analysis, development, training and support.

## Contact Information

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